

Figure 1.

- 1 - Aspirate experimental sample
 ≅ 2 sec. { 2 - Flush out experimental sample
 ≅ 2 sec. { 3 - Pick up wash buffer
 ≅ 2 sec. { 4 - Flush out wash buffer
 ≅ 2 sec. { 5 - Pick up reagent tag
 ≅ 2 sec. { 6 - Expel reagent tag
 ≅ 2 sec. { 7 - Pick up wash buffer
 ≅ 2 sec. { 8 - Flush out wash buffer partially
 ≅ 2 sec. { 9 - Read
 ≅ 2 sec. { 10 - Reset

SAH

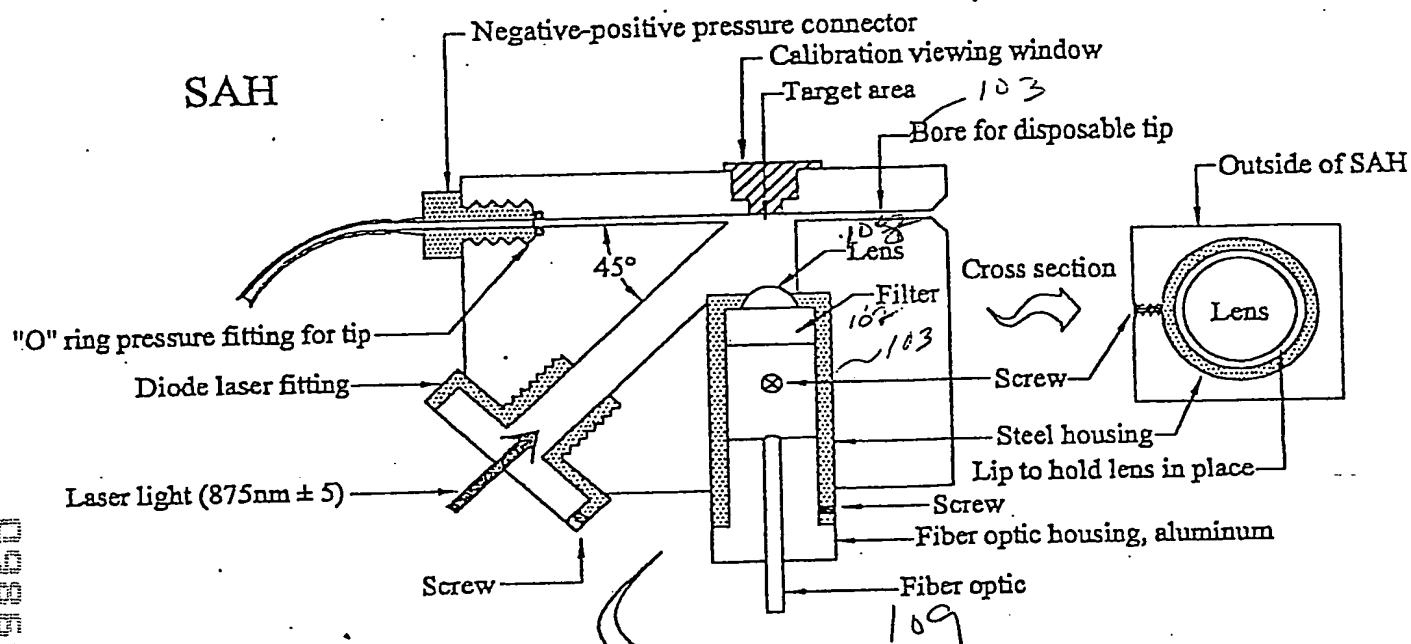


Figure 2A

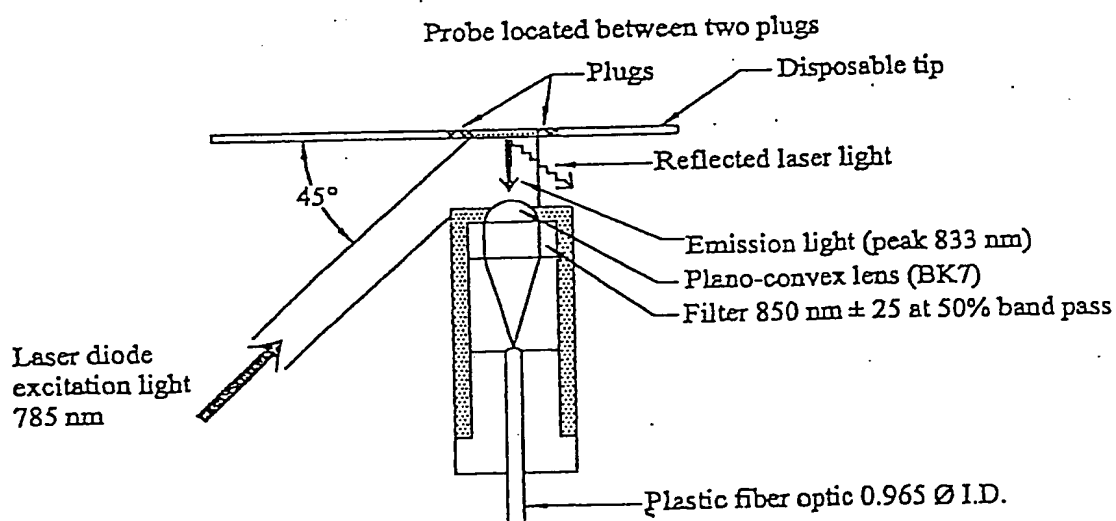


Figure 2b

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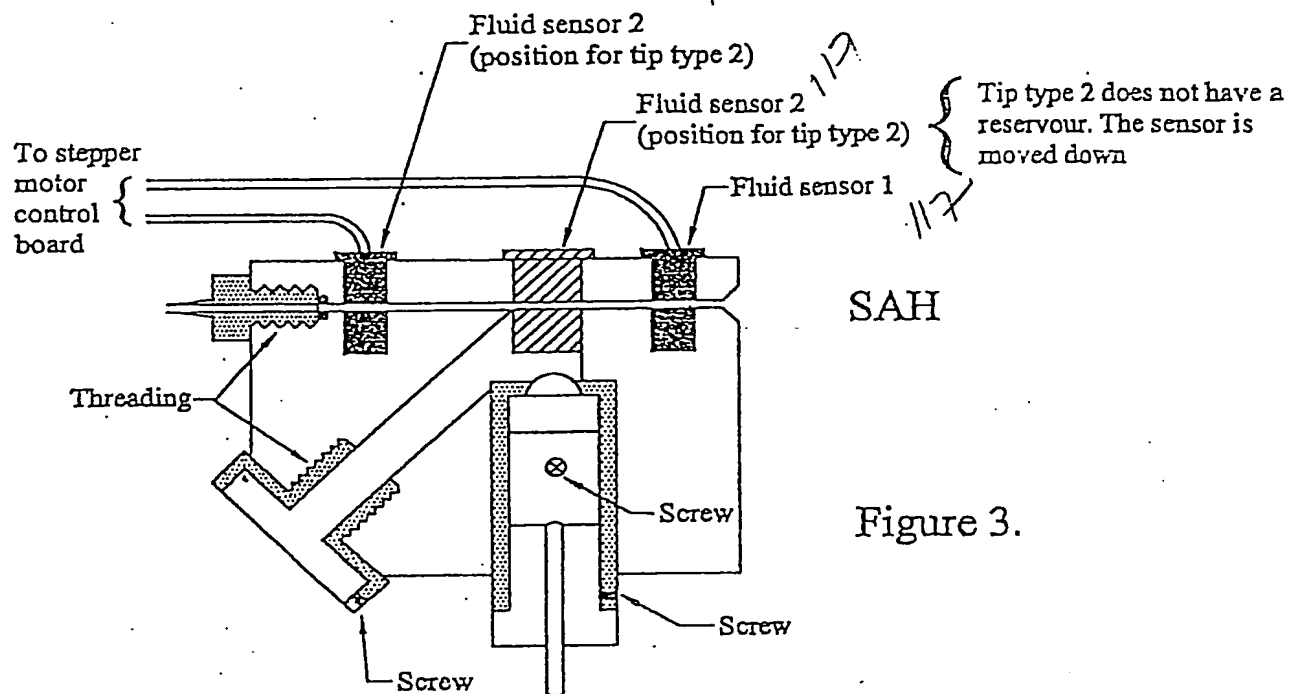


Figure 3.

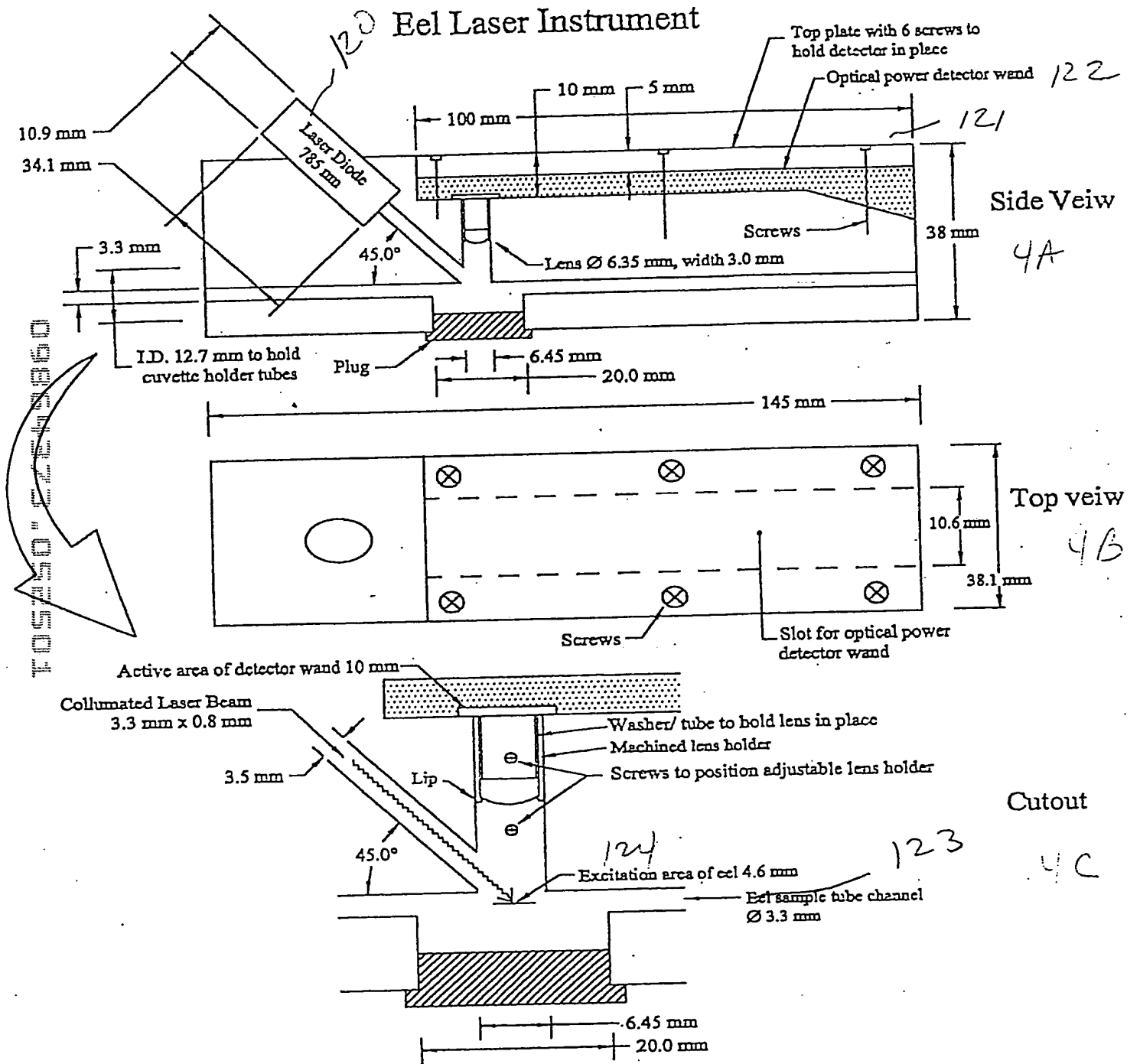


Figure 4.

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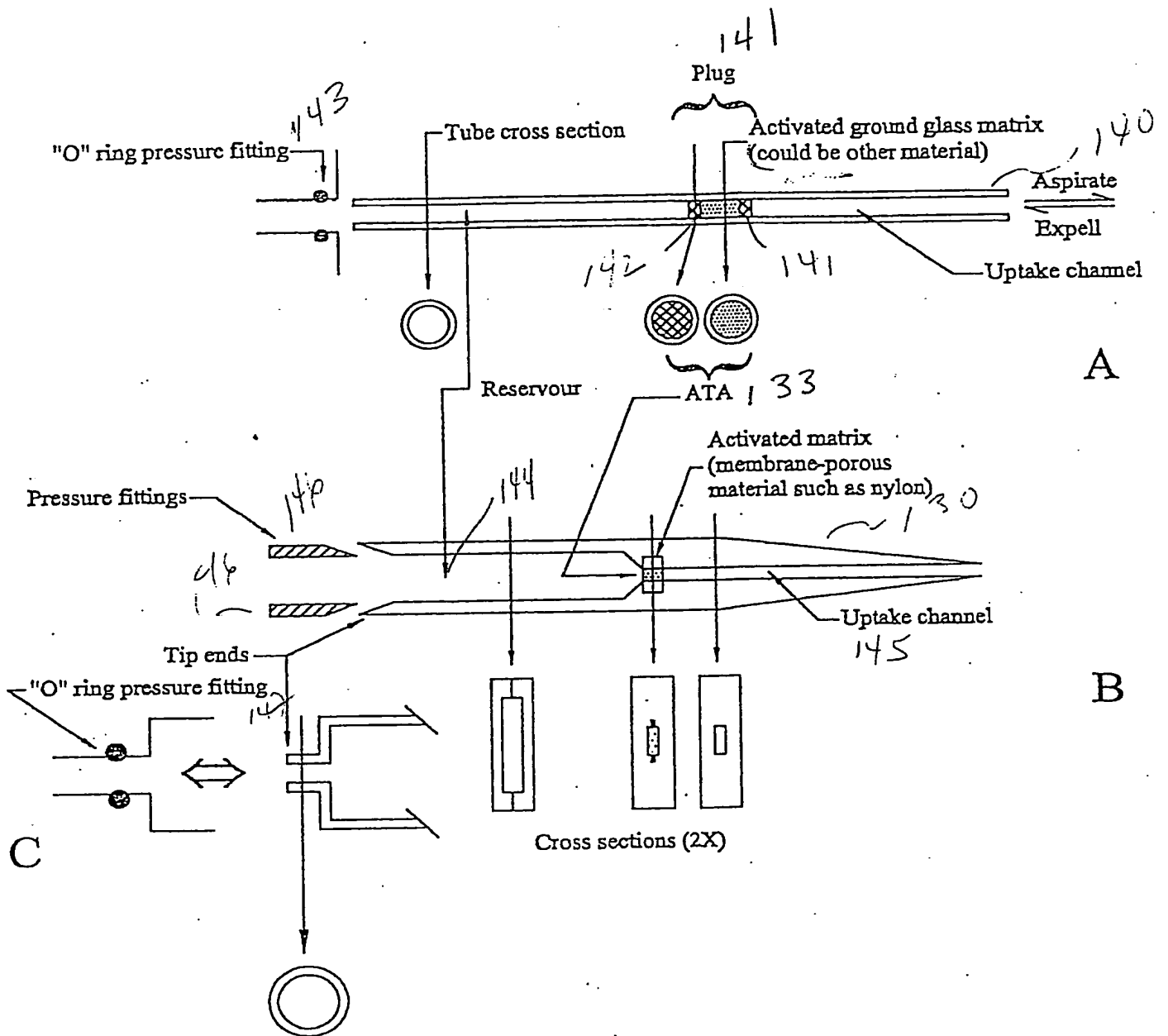


Figure 5.

A

Activated matrix (membrane-porous material such as nylon)

Uptake channel

Bubble

Tube end

ATA

Bevel

Cross sections

B

Activated matrix (membrane-porous material such as nylon)

Uptake channel

Bubble spread on adjacent post increases stability by added surface tension

Tube end

ATA

Air passage

Cross section

Space

C

Bubble with IR-probe to be measured in the ATA

Wall

Window

IR light ($875\text{nm} \pm 5$) on center of bubble

IR optic (to detector)

Lens

Light of emission

Tube end

Wall

Absorbing paint in recessed SAH

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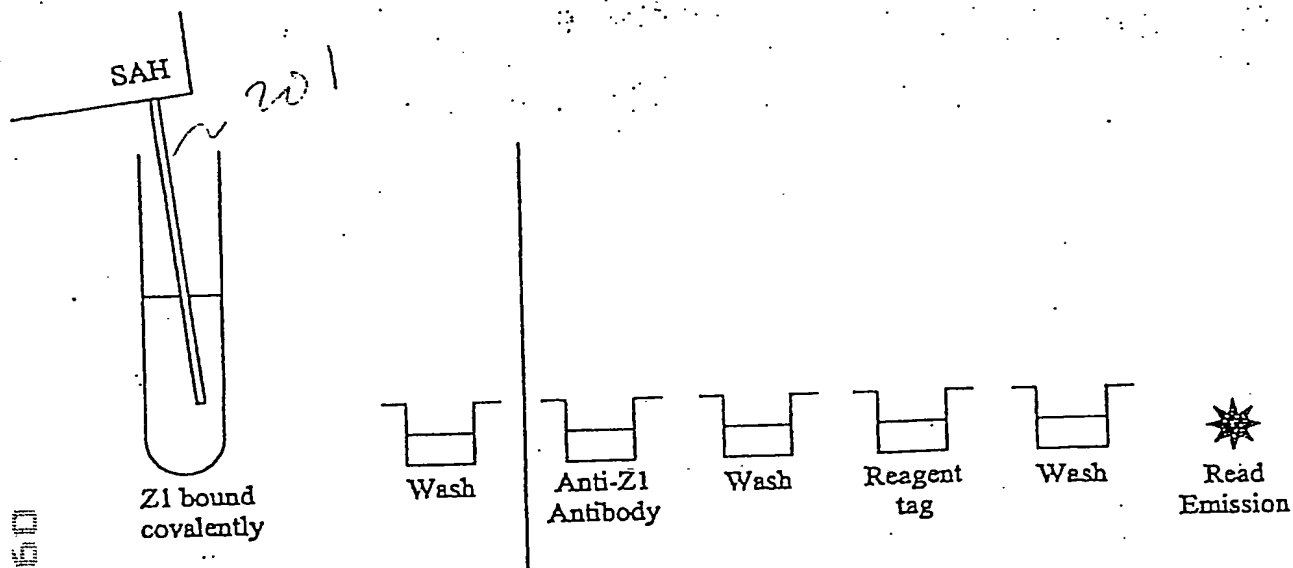


Figure 7.